

YING BAO

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EDUCATION

University of Toronto

Ph.D., Marketing, Rotman School of Management	Expected 2020
M.A., Economics (Doctoral Stream), Department of Economics	2014
B.Sc., Financial Economics, Department of Economics	2013

RESEARCH INTERESTS

Quantitative Marketing, Behavioral Economics, Contract Design, Health Economics, New Product Development, and Salesforce Management

WORKING PAPERS

1. Ying Bao (2019), “Forgetful Consumers and Consumption Tracking Technology” (*Job Market Paper*)
Best Poster Paper Award at Empirical and Theoretical Symposium (2019)
2. Ying Bao, Matthew Osborne, Emily Wang and Edward Jaenicke (2019), “Obesity and Self-Control: Evidence from Food Purchase Data”
Accepted for presentation at Bass FORMS Conference (2019), Behavioral Industrial Organization and Marketing (2019), International Industrial Organization Conference (2019), Toulouse Food and Industrial Organization Conference (2019), and Marketing Science (2017)
3. Ying Bao, Mengze Shi and Ajay Kalra (2019), “Managing Project Selection Through Contract Design”
Revise and Resubmit, Management Science
Presented at TADC (2017), Marketing Science (2016), and Empirical & Theoretical Symposium (Poster Session) (2016)

WORK IN PROGRESS

1. Uniform Commission Contract and Sales Agent Identification *with Mengze Shi and Rob Waiser*
Presented at Marketing Science (2017), and Empirical & Theoretical Symposium, Poster Session, (2017)

2. Obesity, Health Conditions, and Food Purchases *with Matthew Osborne, Nitin Mehta, Emily Wang and Edward Jaenicke*
3. Penetration of Consumption Tracking Technology and Retailing Banks Fee Structure *with Matthew Osborne*
4. “Bricks and/or Clicks”: How Does Information Affect Retailers Channel Choice and Profit? *with David Soberman*

CONFERENCE PRESENTATIONS

1. “Forgetful Consumers and Consumption Tracking Technology”
 - Empirical & Theoretical Symposium (Poster Session), Vancouver, Canada, 2019
 - Empirical & Theoretical Symposium (Poster Session), Guelph, Canada, 2018
2. “Uniform Commission Contract and Sales Agent Identification”
 - Empirical & Theoretical Symposium (Poster Session), Montreal, Canada, 2017
 - Marketing Science Conference, Los Angeles, USA, 2017
3. “Managing Project Selection Through Contract Design”
 - Trans-Atlantic Doctoral Conference, London, UK, 2017
 - Marketing Science Conference, Shanghai, China, 2016
 - Empirical & Theoretical Symposium (Poster Session), Banff, Canada, 2016

GRANTS, AWARDS, AND HONORS

Ontario Graduate Scholarship	2017-2020
Rotman PhD Fellowship and Director Fellowship	2014-2019
AMA-Sheth Foundation Doctoral Consortium Fellow	2018
ISMS Doctoral Consortium Fellow	2017
Quantitative Marketing and Structural Econometrics Workshop Fellow	2015
University of Toronto Fellowship	2013-2014
Dean’s Honor List	2010-2013
June Scott Award in Statistics	2011

TEACHING EXPERIENCE

Teaching Assistant, University of Toronto

Principles of Marketing	Sept 2015 - Present
Marketing Science (MMI)	Sept 2015 - Present
Marketing Consulting: Models for Analysis	Jan 2016 - Present
Model Based Decision Making (MBA)	Sept 2016 - Dec 2016
Game Theory for Business Strategy	Sept 2015 - Dec 2016
Managerial Economics 1&2	Sept 2013 - Apr 2014
Economics of Information	Sept 2013 - Dec 2014
Risk Management	Sept 2013 - Dec 2014

WORK EXPERIENCE

Research Assistant Multi-specialty Medical Clinic, Toronto, Canada	Nov 2013 - Sept 2014
Research Assistant Impact Infrastructure, Toronto, Canada	Sept 2012 - Jun 2013
Quantitative Analyst Intern Harfor Fund Management, Shanghai, China	May 2012 - Aug 2012

GRADUATE COURSEWORK

Marketing

Marketing Theory I: Consumer Behaviour	Nina Mazar
Marketing Theory II: Strategy	Sridhar Moorthy
Econometric Methods in Marketing	Andrew Ching
Current Topics in Marketing Strategy	David Soberman
Special Topics: Experimental Economics	Tanjim Hossain

Economics

Microeconomics Theory I	Marcin Peski and Ettore Damiano
Microeconomics Theory II	Martin J. Osborne and Xianwen Shi

Econometrics I	Christian Gourieroux and Yuanyuan Wan
Econometrics II	Adonis Yatchew and Victor Aguirregabiria
Industrial Organization I	Frank Mathewson
Industrial Organization II	Victor Aguirregabiria
Applied Microeconomics	
Empirical Applications of Economics Theory	Eduardo Souza- Rodrigues
Methods for Empirical Microeconomics	Gustavo Bobonis

Statistics and Mathematics

Statistical Methods for Machine Learning and Data Mining	Russ Salakhutdinov
Analysis I	Edward Bierstone

COMPUTER SKILLS

Stata, R, Python, MATLAB, SQL, LaTeX, Scientific Workplace

CITIZENSHIP

Chinese, Permanent Resident of Canada

REFERENCES

Mengze Shi

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David Soberman

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SELECTED ABSTRACTS

Ying Bao (2019), “Forgetful Consumers and Consumption Tracking Technology”, *Job Market Paper*

This paper studies the marketing implications of consumption tracking technology, such as mobile apps that help consumers track their spending. I develop a two-period consumption model where consumers have to pay a penalty fee to a monopoly service provider if they choose to consume in both periods. In the model, consumers may forget their period one consumption decision and may not accurately perceive their forgetfulness. The model allows consumers the option of using consumption tracking technology at a cost, which reminds consumers of their period one consumption decision and thus helps them avoid paying a penalty fee. This paper shows that the availability of consumption tracking technology improves consumer welfare even if consumers do not use it. The rationale is that the firm will respond to the availability by reducing its penalty fee to disincentivize consumers from using it. When consumers have different levels of forgetfulness, the availability of consumption tracking technology will hurt less forgetful consumers while make more forgetful consumers better off. Finally, the consumption tracking technology tends to hurt firm's profit, but not as much when consumers are less forgetful or have a better understanding of their forgetfulness.

Ying Bao, Matthew Osborne, Emily Wang, and Edward Jaenicke (2019), “Obesity and Self-Control: Evidence from Food Purchase Data”

In this paper, we document the relationship between obesity and food purchase behavior using a novel and unique dataset that links individual-level scanner data on food purchases to survey data containing questions about an individual's obesity status. We find that obese individuals have higher purchase shares of unhealthy goods, are more likely to purchase products offered in checkout lanes that exploit consumer temptation, and are significantly more sensitive to price changes in product categories that are both unhealthy and tempting. We find no differences in price sensitivity across obesity levels in comparable product categories that would not be considered tempting. Moreover, we find that the relationship between price sensitivity and BMI is significantly smaller for individuals who have recently lost weight. Our empirical results are consistent with the model of self-control developed by Gul and Persendorfer (2001) and B'enabou and Pycia (2002). We do not find systematic support for the idea that more obese individuals are broadly more myopic, in contrast to earlier research. We also do not find systematic evidence that obesity is correlated with worse information about the consequences of unhealthy eating.

Ying Bao, Mengze Shi, and Ajay Kalra (2019) “Managing Project Selection Through Contract Design”, *R&R, Management Science*

A common decision that firms make is to prioritize and allocate resources to competing new product projects. On successful completion of a project, it is efficient for the firm to reward the project manager using a customized incentive plan, which offers a reward according to the

amount of resource invested in the project. However, in practice we often observe firms offering a standardized incentive plan, which provides a reward disregarding the differential amount of resources invested in the projects. We develop a theoretical model to provide an explanation for this puzzling practice. We model the phenomena where a representative project manager has private information about the quality of her own project, and can manipulate the signal of project quality that the organization receives during the identification/resource-allocation stage. We show that when the manager manipulates the signal, a standardized incentive plan encourages the manager of a high-quality project to manipulate more and stand out. We argue that a standardized incentive plan under some condition is preferred because such a plan leads to more accurate resource allocation, even though a customized incentive plan is more efficient in inducing the implementation effort. We find the optimality of the standardized incentive plan to be robust in the model where the firm can choose the level of evaluation threshold, the model with multiple projects, and the model with a ranking procedure.

Ying Bao, Mengze Shi, and Rob Waiser (2018), “Uniform Commission Contract and Sales Agent Identification”

It is commonly observed in many industries that firms often offer the same commission rate to their salespeople, even though these salespeople have different levels of productivity. This observation is puzzling because the standard principle-agency model would prescribe that a firm should customize the commission rate according to the salespeople’s productivity (Basu et al, Marketing Science, 1985). This paper provides a theoretical explanation for the offering of uniform commission rate in a heterogeneous salesforce. The model consists of two stages: a probational sales period and a selling stage. In the perfect information case, the firm prefers a positive match (high-type salesperson assigned to the high-potential task) and offers customized commission rates. However, in the case of asymmetric information, while the firm still prefers a positive match, it is now optimal to provide the uniform commission rate. Such a contract is not optimal in the perfect-information case because it gives the high-type salesperson excessive surplus in the second stage. But it becomes optimal in the case of asymmetric information, because the excessive surplus becomes information rent and generates additional incentive for the talented salesperson to stand out in the first stage; moreover, the benefit of correct assignment dominates the cost of excessive payment. In summary, we provide a rationale for the commonly observed uniform commission rate as a selection mechanism that improves the sales assignment.